



ABSTRACT

The present invention relates to a catalyst composition for polymerization of a conjugated diene, comprising: (A) a metallocene-type complex represented by a general formula (I):

$(C_5R^1R^2R^3R^4R^5)_aMX_b \cdot L_c$ (where, M represents a rare earth metal; $C_5R^1R^2R^3R^4R^5$ represents a substituted cyclopentadienyl group; R^1 to R^5 represent the same or different hydrocarbon groups (except when $R^1 = R^2 = R^3 = R^4 = R^5 =$ a methyl group); X represents a hydrogen atom, a halogen atom, an alkoxide group, a thiolate group, an amide group, or a hydrocarbon group having 1 to 20 carbon atoms; L represents a Lewis basic compound; "a" represents an integer of 1, 2, or 3; "b" represents an integer of 0, 1, or 2; and "c" represents an integer of 0, 1, or 2); and (B) an ionic compound composed of a non-coordinating anion and a cation, and/or an aluminoxane. The present invention provides a catalyst composition for polymerization for production of a polymer having a high content of cis-1,4-configuration in microstructure and a narrow molecular weight distribution.